GenCore version 4.5

OM protein - protein search, using sw model

Run on: March 1, 2001, 16:18:28 ; Search time 64.32 Seconds
(without alignments)
11.696 Million cell updates/sec

Title: US-09-331-631A-39
Perfect score: 54
Sequence: 1 CXXXCXXXXXXXXXXXXCXXXC 22

Scoring table: BLOSUM62DX
Gapop 10.0 , Gapext 0.5

Searched: 268485 seqs, 34193795 residues

Total number of hits satisfying chosen parameters: 268485

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : A_Geneseq_36:*
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21: /SIDS1/gcgdata/geneseq/geneseqp/AA2000.DAT:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	54	100.0	27	20	Y36499	Fragment of human
2	54	100.0	31	21	Y70731	Wnt antagonist pro
3	54	100.0	36	4	P30262	Sequence of peptid
4	54	100.0	36	4	P30263	Sequence of peptid
5	54	100.0	39	17	W05340	Calisoga spider ve
6	54	100.0	39	17	W05341	Calisoga spider ve
7	54	100.0	39	17	W05342	Calisoga spider ve
8	54	100.0	39	20	Y07909	Human secreted pro
9	54	100.0	44	17	R98208	Nucleotide used in
10	54	100.0	44	21	Y64770	Human 5' EST relat
11	54	100.0	57	21	Y57813	Crab metallothione
12	54	100.0	59	21	Y57812	Trout metallothion
13	54	100.0	62	21	Y57810	Human metallothion
14	54	100.0	63	21	Y57815	Sea urchin metallo
15	54	100.0	66	21	Y64780	Human 5' EST relat
16	54	100.0	70	21	Y75953	Murine skin cell p
17	54	100.0	72	19	W50389	Snake venom platel
18	54	100.0	72	19	W50452	Snake venom platel
19	54	100.0	72	19	W46214	Snake venom platel
20	54	100.0	73	20	Y35935	Extended human sec
21	54	100.0	75	18	W21583	Alzheimer's diseas
22	54	100.0	76	20	Y02761	Human secreted pro
23	54	100.0	76	21	Y68907	A mouse WDNM-2 pro
24	54	100.0	80	17	W05343	Calisoga spider ve
25	54	100.0	86	20	Y36498	Fragment of human
26	54	100.0	92	21	Y69209	Amino acid sequenc
27	54	100.0	93	20	Y36164	Human secreted pro
28	54	100.0	93	20	Y36211	Human secreted pro
29	54	100.0	100	21	Y65659	C. elegans insulin
30	54	100.0	104	21	Y65661	C. elegans insulin
31	54	100.0	105	21	Y65660	C. elegans insulin
32	54	100.0	106	21	Y65655	C. elegans insulin
33	54	100.0	112	21	Y65658	C. elegans insulin
34	54	100.0	118	21	Y44985	Human epidermal pr
35	54	100.0	118	21	Y65662	C. elegans insulin
36	54	100.0	124	19	W56732	Nucellus specific
37	54	100.0	125	12	R13329	HE4 epididymis-spe
38	54	100.0	125	19	W81779	Human HE4 protein.
39	54	100.0	128	21	Y44987	Human epidermal pr
40	54	100.0	149	8	P70057	Human insulin rece
41	54	100.0	150	8	P70058	Human epidermal gr
42	54	100.0	165	12	R10533	Prod. of pMG4B12 u
43	54	100.0	169	20	Y60558	Human normal bladd
44	54	100.0	170	20	Y29215	Amino acid sequenc
45	54	100.0	233	21	Y74791	Neisseria meningit

ALIGNMENTS

RESULT 1
Y36499
ID Y36499 standard; Protein; 27 AA.
XX
AC Y36499;
XX
DT 17-SEP-1999 (first entry)
XX
DE Fragment of human secreted protein encoded by gene 27.
XX
KW Human; secreted protein; cancer; tumour; developmental abnormality;
KW foetal deficiency; blood disorder; immune system disorder; inflammation;
KW autoimmune disease; allergy; Alzheimer's disease; cognitive disorder;
KW schizophrenia; arthritis; asthma; psoriasis; sepsis; skin disorder;
KW atherosclerosis; diabetes; cardiovascular disorder; kidney disorder;
KW digestive disorder; endocrine disorder; infection; AIDS.
XX
OS Homo sapiens.
XX
PN WO9931117-A1.
XX
PD 24-JUN-1999.
XX
PF 17-DEC-1998; 98WO-US27059.
XX
PR 19-DEC-1997; 97US-0068369.
PR 18-DEC-1997; 97US-0068006.
PR 18-DEC-1997; 97US-0068007.
PR 18-DEC-1997; 97US-0068008.
PR 18-DEC-1997; 97US-0068053.
PR 18-DEC-1997; 97US-0068054.
PR 18-DEC-1997; 97US-0068057.
PR 18-DEC-1997; 97US-0068064.
PR 18-DEC-1997; 97US-0070923.
PR 19-DEC-1997; 97US-0068169.

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PR   19-DEC-1997;   97US-0068365.
PR   19-DEC-1997;   97US-0068367.
PR   19-DEC-1997;   97US-0068368.
XX
PA   (HUMA-) HUMAN GENOME SCI INC.
XX
PI   Carter KC,  Duan RD,  Feng P,  Ferrie AM,  Florence C;
PI   Florence K,  Greene JM,  Janat F,  Kyaw H,  Moore PA;
PI   Ni J,  Rosen CA,  Ruben SM,  Shi Y,  Soppet DR,  Wei Y;
PI   Yu G;
XX
DR   WPI; 1999-418749/35.
XX
PT   New isolated human genes encoding secreted polypeptides
XX
PS   Disclosure; Page 466; 537pp; English.
XX
CC   X97916 to X98029 represent 110 isolated human secreted protein genes.
CC   Y36224 to Y36727 represent the secreted proteins encoded by the 110
CC   human genes. The genes and their corresponding secreted polypeptides are
CC   useful for preventing, treating or ameliorating medical conditions,
CC   e.g. by protein or gene therapy. Also pathological conditions can be
CC   diagnosed by determining the amount of the new polypeptides in a sample
CC   or by determining the presence of mutations in the new genes. Specific
CC   uses are described for each of the 110 genes, based on which tissues they
CC   are most highly expressed in, and include developing products for the
CC   diagnosis or treatment of cancer, tumours, developmental abnormalities
CC   and foetal deficiencies, blood disorders, diseases of the immune system,
CC   autoimmune diseases, inflammation, allergies, Alzheimer's and cognitive
CC   disorders, schizophrenia, arthritis, asthma, psoriasis, sepsis, skin
CC   disorders, atherosclerosis, diabetes, cardiovascular disorders, kidney
CC   disorders, digestive/endocrine disorders, infections and AIDS. The
CC   polypeptides are also useful for identifying their binding partners.
CC   The sequences given in X97907 to X97915 and Y36223 are used in the
CC   exemplification of the present invention.
XX
SQ   Sequence   27 AA;


  Query Match             100.0%;  Score 54;  DB 20;  Length 27;
  Best Local Similarity   18.2%;  Pred. No. 1e+02;
  Matches    4;  Conservative   18;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 CXXXCXXXXXXXXXXXXCXXXC 22
           |:::|:::::::::::::|:::|
Db       4 cpscclpsrpgcsreqrcafsc 25


RESULT   2
Y70731
ID   Y70731 standard; protein; 31 AA.
XX
AC   Y70731;
XX
DT   24-JUL-2000  (first entry)
XX
DE   Wnt antagonist protein consensus sequence-1.
XX
KW   Wnt antagonist; contraceptive; contraceptive vaccine; oocyte development;
KW   female primate contraception; oocyte viability.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Misc-difference 2
FT                   /label= Unknown
FT                   /note= "Xaa may be 9 amino acids in length; some
FT                   amino acids may be absent"
FT   Misc-difference 4
FT                   /label= Unknown
FT                   /note= "Xaa may be 42 amino acids in length; some
FT                   amino acids may be absent"
FT   Misc-difference 14
FT                   /label= Unknown
FT   Misc-difference 15
FT                   /label= Unknown
FT   Misc-difference 16
FT                   /label= Unknown
FT   Misc-difference 17
FT                   /label= Unknown
FT   Misc-difference 18
FT                   /label= Unknown
FT   Misc-difference 19
FT                   /label= Unknown
FT   Misc-difference 21
FT                   /label= Unknown
FT                   /note= "Xaa may be 10 amino acids in length; some
FT                   amino acids may be absent"
FT   Misc-difference 23
FT                   /label= Unknown
FT   Misc-difference 24
FT                   /label= Unknown
FT   Misc-difference 25
FT                   /label= Unknown
FT   Misc-difference 27
FT                   /label= Unknown
FT                   /note= "Xaa may be 7 amino acids in length; some
FT                   amino acids may be absent"
FT   Misc-difference 29
FT                   /label= Unknown
FT                   /note= "Xaa may be 27 amino acids in length; some
FT                   amino acids may be absent"
FT   Misc-difference 31
FT                   /label= Unknown
FT                   /note= "Xaa may be 13 amino acids in length; some
FT                   amino acids may be absent"
XX
PN   WO200021555-A1.
XX
PD   20-APR-2000.
XX
PF   13-OCT-1999;   99WO-US23640.
XX
PR   15-OCT-1998;   98US-0104355.
XX
PA   (HARD ) HARVARD COLLEGE.
XX
PI   Mcmahon AP,  Parr BA,  Vaino S;
XX
DR   WPI; 2000-317845/27.
XX
PT   Contraceptive composition for inhibiting oocyte development in a female
PT   primate comprises a Wnt polypeptide antagonist  -
XX
PS   Claim 12; Page 44; 57pp; English.
XX
CC   The patent discloses a method of female primate contraception comprising
CC   administering an antagonist of a Wnt polypeptide, inhibiting oocyte
CC   development. Wnt polypeptides are useful for promotive maturation of an
CC   immature oocyte. Wnt polypeptides are also useful for increasing the
CC   number of mature oocytes and to enhance oocyte viability. The present
CC   peptide is a consensus sequence of Wnt antagonist which inhibits the
CC   physiological activity of a Wnt polypeptide. Antagonistic polypeptides
CC   may contain a cysteine-rich domain.
XX
SQ   Sequence   31 AA;


  Query Match             100.0%;  Score 54;  DB 21;  Length 31;
  Best Local Similarity   63.6%;  Pred. No. 1.1e+02;
  Matches   14;  Conservative    8;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 CXXXCXXXXXXXXXXXXCXXXC 22
           |:::|::::||||||:||||||
Db       5 ccccccccxxxxxxcxcxxxc 26
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```
RESULT   3
P30262
ID   P30262 standard; peptide; 36 AA.
XX
AC   P30262;
XX
DT   25-APR-1992  (first entry)
XX
DE   Sequence of peptide used to vaccinate against E. coli enterotoxin(s).
XX
KW   Vaccine; enterotoxin; diaorrhoea; immunogen.
XX
OS   Escherichia coli.
XX
FH   Key             Location/Qualifiers
FT   Misc-difference 1..18
FT                   /label= Peptide P
XX
PN   EP93652-A.
XX
PD   09-NOV-1983.
XX
PF   26-APR-1983;   83EP-0072336.
XX
PR   26-APR-1982;   82FR-0007179.
XX
PA   (INSP ) INST PASTEUR.
PA   (CNRS ) CENT NAT RECH SCI.
XX
PI   Tartar A,  Duflot E,  Boquet P;
XX
DR   WPI; 1983-816301/46.
XX
PT   Peptide(s) used to vaccinate against E. coli enterotoxin(s) -
PT   contg. e.g. asparagine threonine phenylalanine tyrosine cysteine
PT   cysteine glutamic acid leucine cysteine cysteine asparagine
PT   sequences
XX
PS   Claim 1; Page 40; 50pp; French.
XX
CC   The inventors claim peptides of formula (P)n (see FT; see also
CC   P30263) having 4n-18n amino acids and pref. being laevorotatory
CC   (where n is 1 or 2).  In P30262 and P30263, N=2.  When n is 2, the
CC   peptide comprises two peptide sequences P, which may be the same or
CC   different, each having 4-18 amino acids chosen from the peptide P SQ
CC   in P30262 or P30263.  The two P sequences may be joined (a) by a
CC   disulphide bond or (b) by a bond formed between a carboxyl gp. of
CC   one sequence of an amino gp. of the other.
XX
SQ   Sequence   36 AA;


  Query Match             100.0%;  Score 54;  DB 4;  Length 36;
  Best Local Similarity   18.2%;  Pred. No. 1.3e+02;
  Matches    4;  Conservative   18;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 CXXXCXXXXXXXXXXXCXXXC 22
           |:::|:::::::::::::|:::|
Db       6 celccnpacagcyntfyccelc 27


RESULT   4
P30263
ID   P30263 standard; peptide; 36 AA.
XX
AC   P30263;
XX
DT   25-APR-1992  (first entry)
XX
DE   Sequence of peptide used to vaccinate against E. coli enterotoxin(s).
XX
KW   Vaccine; enterotoxin; diaorrhoea; immunogen.
XX
OS   Escherichia coli.
XX
FH   Key             Location/Qualifiers
FT   Misc-difference 1..18
FT                   /label= Peptide P
XX
PN   EP93652-A.
XX
PD   09-NOV-1983.
XX
PF   26-APR-1983;   83EP-0072336.
XX
PR   26-APR-1982;   82FR-0007179.
XX
PA   (INSP ) INST PASTEUR.
PA   (CNRS ) CENT NAT RECH SCI.
XX
PI   Tartar A,  Duflot E,  Boquet P;
XX
DR   WPI; 1983-816301/46.
XX
PT   Peptide(s) used to vaccinate against E. coli enterotoxin(s) -
PT   contg. e.g. asparagine threonine phenylalanine tyrosine cysteine
PT   cysteine glutamic acid leucine cysteine cysteine asparagine
PT   sequences
XX
PS   Claim 1; Page 40; 50pp; French.
XX
CC   The inventors claim peptides of formula (P)n (see FT; see also
CC   P30263) having 4n-18n amino acids and pref. being laevorotatory
CC   (where n is 1 or 2).  In P30262 and P30263, N=2.  When n is 2, the
CC   peptide comprises two peptide sequences P, which may be the same or
CC   different, each having 4-18 amino acids chosen from the peptide P SQ
CC   in P30262 or P30263.  The two P sequences may be joined (a) by a
CC   disulphide bond or (b) by a bond formed between a carboxyl gp. of
CC   one sequence of an amino gp. of the other.
XX
SQ   Sequence   36 AA;


  Query Match             100.0%;  Score 54;  DB 4;  Length 36;
  Best Local Similarity   18.2%;  Pred. No. 1.3e+02;
  Matches    4;  Conservative   18;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 CXXXCXXXXXXXXXXXCXXXC 22
           |:::|:::::::::::::|:::|
Db       6 celccypacagcnntfyccelc 27


RESULT   5
W05340
ID   W05340 standard; peptide; 39 AA.
XX
AC   W05340;
XX
DT   15-APR-1997  (first entry)
XX
DE   Calisoga spider venom peptide A, used as insecticide.
XX
KW   Calisoga; spider; venom; insecticide; recombinant; baculovirus; pest;
KW   tobacco budworm; Heliothis viscerens; low mammalian toxicity.
XX
OS   Calisoga sp.
XX
PN   WO9625041-A1.
XX
PD   22-AUG-1996.
XX
PF   16-FEB-1996;   96WO-US02030.
XX
PR   17-FEB-1995;   95US-0390882.
XX
```

```
PA   (NPSP-) NPS PHARM INC.
XX
PI   Johnson JH,  Kral RM,  Krapcho K;
XX
DR   WPI; 1996-393030/39.
DR   N-PSDB; T39769.
XX
PT   New insecticidal peptide(s) from venom of Calisoga spider - having
PT   low toxicity to mammals, useful for controlling insect pests
XX
PS   Claim 2; Page 33; 53pp; English.
XX
CC   W05340 is a peptide derived from the venom of spiders of the
CC   genus Calisoga. It is useful as an insecticide, having a neurotoxic
CC   effect on Heliothis viscerens (tobacco budworm). The peptide is
CC   derived from a larger protein sequence including a 41 amino acid (aa)
CC   signal peptide region (see W05343) and is preferably recombinantly
CC   administered to insects using a baculovirus host expression system
CC   (or other natural insect pathogen, e.g. Bacillus). The peptide has
CC   a low toxicity to mammals and can be recombinantly produced on a
CC   large scale.
XX
SQ   Sequence   39 AA;


  Query Match             100.0%;  Score 54;  DB 17;  Length 39;
  Best Local Similarity   18.2%;  Pred. No. 1.4e+02;
  Matches    4;  Conservative   18;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 CXXXCXXXXXXXXXXXCXXXC 22
          |:::|:::::::::::::|:::|
Db     15 csgncgtfwtcyirkdpcskec 36


RESULT   6
W05341
ID   W05341 standard; peptide; 39 AA.
XX
AC   W05341;
XX
DT   15-APR-1997  (first entry)
XX
DE   Calisoga spider venom peptide B, used as insecticide.
XX
KW   Calisoga; spider; venom; insecticide; recombinant; baculovirus; pest;
KW   tobacco budworm; Heliothis viscerens; low mammalian toxicity.
XX
OS   Calisoga sp.
XX
PN   WO9625041-A1.
XX
PD   22-AUG-1996.
XX
PF   16-FEB-1996;   96WO-US02030.
XX
PR   17-FEB-1995;   95US-0390882.
XX
PA   (NPSP-) NPS PHARM INC.
XX
PI   Johnson JH,  Kral RM,  Krapcho K;
XX
DR   WPI; 1996-393030/39.
DR   N-PSDB; T39770
XX
PT   New insecticidal peptide(s) from venom of Calisoga spider - having
PT   low toxicity to mammals, useful for controlling insect pests
XX
PS   Claim 3; Page 39; 53pp; English.
XX
CC   W05341 is a peptide derived from the venom of spiders of the
CC   genus Calisoga. It is useful as insecticides having a neurotoxic
CC   effect on Heliothis viscerens (tobacco budworm). The peptide is
CC   preferably recombinantly administered to insects using a baculovirus
CC   host expression system (or other natural insect pathogen, e.g.
CC   Bacillus). The peptide has a low toxicity to mammals and can be
CC   recombinantly produced on a large scale.
XX
SQ   Sequence   39 AA;


  Query Match             100.0%;  Score 54;  DB 17;  Length 39;
  Best Local Similarity   18.2%;  Pred. No. 1.4e+02;
  Matches    4;  Conservative   18;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 CXXXCXXXXXXXXXXXCXXXC 22
          |:::|:::::::::::::|:::|
Db     15 csgncgtfwtcfirkdpcskec 36


RESULT   7
W05342
ID   W05342 standard; peptide; 39 AA.
XX
AC   W05342;
XX
DT   15-APR-1997  (first entry)
XX
DE   Calisoga spider venom peptide C, used as insecticide.
XX
KW   Calisoga; spider; venom; insecticide; recombinant; baculovirus; pest;
KW   tobacco budworm; Heliothis viscerens; low mammalian toxicity.
XX
OS   Calisoga sp.
XX
PN   WO9625041-A1.
XX
PD   22-AUG-1996.
XX
PF   16-FEB-1996;   96WO-US02030.
XX
PR   17-FEB-1995;   95US-0390882.
XX
PA   (NPSP-) NPS PHARM INC.
XX
PI   Johnson JH,  Kral RM,  Krapcho K;
XX
DR   WPI; 1996-393030/39.
DR   N-PSDB; T39770.
XX
PT   New insecticidal peptide(s) from venom of Calisoga spider - having
PT   low toxicity to mammals, useful for controlling insect pests
XX
PS   Claim 4; Page 40; 53pp; English.
XX
CC   W05342 is a peptide derived from the venom of spiders of the
CC   genus Calisoga. It is useful as insecticides having a neurotoxic
CC   effect on Heliothis viscerens (tobacco budworm). The peptide is
CC   derived from a larger protein sequence including a 41 amino acid (aa)
CC   signal peptide region (see W05343) and is preferably recombinantly
CC   administered to insects using a baculovirus host expression system
CC   (or other natural insect pathogen, e.g. Bacillus). The peptide has
CC   a low toxicity to mammals and can be recombinantly produced on a
CC   large scale.
XX
SQ   Sequence   39 AA;


  Query Match             100.0%;  Score 54;  DB 17;  Length 39;
  Best Local Similarity   18.2%;  Pred. No. 1.4e+02;
  Matches    4;  Conservative   18;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 CXXXCXXXXXXXXXXXCXXXC 22
          |:::|:::::::::::::|:::|
Db     15 csgscgifwtcylrkdpcskec 36
```

```
RESULT   8
Y07909
ID   Y07909 standard; Protein; 39 AA.
XX
AC   Y07909;
XX
DT   06-JUL-1999  (first entry)
XX
DE   Human secreted protein fragment encoded from gene 58.
XX
KW   Human; secreted protein; treatment; prevention; protein therapy; AIDS;
KW   gene therapy; diagnosis; cancer; tumour; neurodegenerative disorder;
KW   developmental abnormality; fetal deficiency; blood disorder; leukemia;
KW   immune system disease; autoimmune disease; hepatic disease; lymphoma;
KW   renal disease; inflammation; allergy; Alzheimer's disease; schizophrenia;
KW   cognitive disorder; prostate disease; skeletal; cardiac; muscle disorder;
KW   pulmonary disorder; transplant rejection; osteoclast; osteoporosis;
KW   arthritis; malignancy; digestive; endocrine; infection.
XX
OS   Homo sapiens.
XX
PN   WO9918208-A1.
XX
PD   15-APR-1999.
XX
PF   01-OCT-1998;   98WO-US20775.
XX
PR   02-OCT-1997;   97US-0060884.
PR   02-OCT-1997;   97US-0060833.
PR   02-OCT-1997;   97US-0060836.
PR   02-OCT-1997;   97US-0060837.
PR   02-OCT-1997;   97US-0060838.
PR   02-OCT-1997;   97US-0060839.
PR   02-OCT-1997;   97US-0060843.
PR   02-OCT-1997;   97US-0060862.
PR   02-OCT-1997;   97US-0060866.
PR   02-OCT-1997;   97US-0060874.
XX
PA   (HUMA-) HUMAN GENOME SCI INC.
XX
PI   Carter KC,  Duan DR,  Endress GA,  Feng P,  Ferrie AM;
PI   Florence KA,  Greene JM,  Janat F,  Lafleur DW,  Ni J;
PI   Rosen CA,  Ruben SM,  Shi Y,  Young P,  Yu G;
XX
DR   WPI; 1999-264022/22.
DR   N-PSDB; X37508.
XX
PT   New isolated human genes and the secreted polypeptides they encode
XX
PS   Claim 1b; Page 306; 368pp; English.
XX
CC   This invention describes novel isolated human genes and the secreted
CC   proteins they encode. The products of the invention are useful for
CC   preventing, treating or ameliorating medical conditions, e.g. by protein
CC   or gene therapy. Also pathological conditions can be diagnosed by
CC   determining the amount of the new polypeptides in a sample or by
CC   determining the presence of mutations in the new polynucleotides.
CC   Specific uses are described for each of the 101 polynucleotides, based on
CC   which tissues they are most highly expressed in, and include developing
CC   products for the diagnosis or treatment of cancer, tumours,
CC   neurodegenerative disorders, developmental abnormalities and fetal
CC   deficiencies, blood disorders, leukemias, diseases of the immune system,
CC   autoimmune diseases, hepatic and renal disease, lymphomas, inflammation,
CC   allergies, Alzheimer's and cognitive disorders, schizophrenia, prostate
CC   disease, skeletal or cardiac muscle disorders, pulmonary disorders,
CC   transplant rejection, disorders involving osteoclasts such as
CC   osteoporosis, arthritis or malignancies, digestive/endocrine disorders,
CC   infections and AIDS. The human secreted proteins of the invention are
CC   represented in Y07852-Y07993 and the encoding nucleic acids are
CC   represented in X37451-X37552.
XX
SQ   Sequence   39 AA;
```

```
  Query Match             100.0%;  Score 54;  DB 20;  Length 39;
  Best Local Similarity   18.2%;  Pred. No. 1.4e+02;
  Matches    4;  Conservative   18;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 CXXXCXXXXXXXXXXXCXXXC 22
           |:::|:::::::::::::|:::|
Db       6 cfracemcslsglllnlcfqsc 27


RESULT   9
R98208
ID   R98208 standard; Protein; 44 AA.
XX
AC   R98208;
XX
DT   30-DEC-1996  (first entry)
XX
DE   Nucleotide used in production of MSH/MoMuLV chimeric sequence.
XX
KW   Moloney murine leukaemia virus; gp70; 4070A retrovirus; retrovirus;
KW   10A1 murine leukaemia virus; NZB-9-1 murine leukaemia virus;
KW   polytropic MX27 provirus; targetted drug delivery; gene therapy;
KW   single chain antibody; envelope protein; ss.
XX
OS   Synthetic.
XX
PN   WO9630504-A1.
XX
PD   03-OCT-1996.
XX
PF   22-MAR-1996;   96WO-US03908.
XX
PR   24-MAR-1995;   95US-0409648.
XX
PA   (GENE-) GENETIC THERAPY INC.
PA   (UYSC-) UNIV SOUTHERN CALIFORNIA.
XX
PI   Anderson W,  Chiang YL,  Januszeski M,  Mackrell AJ;
PI   Zhao Y;
XX
DR   WPI; 1996-455352/45.
XX
PT   Cell-targetted retroviral vector particles - having envelope protein
PT   modified with targetting polypeptide
XX
PS   Example 2; Page 36; 73pp; English.
XX
CC   Cell targetted retroviral vector particles can be used in gene
CC   therapy to deliver a heterologous gene to a target cell for
CC   expression of a heterologous polypeptide in that cell. The cell
CC   targetted retroviral vector particles comprise an envelope protein
CC   which is modified to contain a targetting polypeptide (a single chain
CC   antibody), or in the case of moloney murine leukaemia virus
CC   (MoMuLV), alpha melanotropin-stimulating hormone (MSH). Two
CC   oligonucleotides (R98207, R98208) were used to substitute sequences in
CC   MoMuLV for MSH sequences.  This oligonucleotide was used to replace
CC   residues G80-P88 of MoMuLV envelope protein (See W04248).
XX
SQ   Sequence   44 AA;


  Query Match             100.0%;  Score 54;  DB 17;  Length 44;
  Best Local Similarity   18.2%;  Pred. No. 1.5e+02;
  Matches    4;  Conservative   18;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 CXXXCXXXXXXXXXXXCXXXC 22
           |:::|:::::::::::::|:::|
Db      15 caagccggtattaacctccctc 36


RESULT  10
Y64770
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```
ID   Y64770 standard; Protein; 44 AA.
XX
AC   Y64770;
XX
DT   01-FEB-2000  (first entry)
XX
DE   Human 5' EST related polypeptide SEQ ID NO:931.
XX
KW   Human; 5' EST; expressed sequence tag; secreted protein; diagnosis;
KW   gene therapy; chromosome mapping; upstream regulatory sequence;
KW   forensic; location; development; protein synthesis; stability;
KW   regulation; identification.
XX
OS   Homo sapiens.
XX
PN   WO9953051-A2.
XX
PD   21-OCT-1999.
XX
PF   09-APR-1999;   99WO-IB00712.
XX
PR   09-APR-1998;   98US-0057719.
PR   28-APR-1998;   98US-0069047.
XX
PA   (GEST ) GENSET.
XX
PI   Dumas Milne Edwards J,  Duclert A,  Giordano J;
XX
DR   WPI; 2000-038446/03.
DR   N-PSDB; Z42384.
XX
PT   Novel secreted protein 5' expressed sequence tag sequences used in
PT   diagnostic, forensic, gene therapy, and chromosome mapping procedures
XX
PS   Claim 3; Page 637; 837pp; English.
XX
CC   Z42265 to Z43075 represent novel 5' expressed sequence tag (EST)
CC   sequences, corresponding to human secreted proteins. Y64651 to Y65438
CC   represent the EST-related proteins corresponding to Z42265 to Z43052.
CC   The 5' ESTs can be used for producing secreted human gene products.
CC   They can be used to identify and isolate 5' untranslated regions (UTRs)
CC   and upstream regulatory regions which control the location, development
CC   stage, rate, and quantity of protein synthesis, as well as stability of
CC   mRNA. The ESTs are also useful as probes for chromosome mapping, and to
CC   obtain full length cDNA clones. The ESTs can also be used in forensic
CC   procedures to identify individuals, or in diagnostic procedures to
CC   identify individuals having genetic diseases resulting from abnormal
CC   gene expression. The products may also be used in gene therapy protocols.
CC   The nucleic acids encoding signal peptides can be used for directing
CC   extracellular secretion of a polypeptide or the insertion of a
CC   polypeptide into a membrane, or importing a polypeptide into a cell.
CC   The proteins encoded by the EST sequences may be useful in treating a
CC   variety of human conditions. Secreted proteins have therapeutic value,
CC   and the identification of new secreted proteins is valuable. Z42249 to
CC   Z42264 and Y64644 to Y64650 represent sequences used in the
CC   exemplification of the present invention.
XX
SQ   Sequence   44 AA;


  Query Match             100.0%;  Score 54;  DB 21;  Length 44;
  Best Local Similarity   18.2%;  Pred. No. 1.5e+02;
  Matches    4;  Conservative   18;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 CXXXCXXXXXXXXXXXXCXXXC 22
           |:::|:::::::::::::|:::|
Db      15 cvsvcvsvsvpvgmylvcvcvc 36


RESULT  11
Y57813
ID   Y57813 standard; protein; 57 AA.
XX
AC   Y57813;
XX
DT   22-MAR-2000  (first entry)
XX
DE   Crab metallothionein Class I amino acid sequence.
XX
KW   Metallothionein; metal recovery; remediation; heavy metal;
KW   precious metal; phytochelatin; green algae; Chlamydomonas reinhardtii.
XX
OS   Eubrachyura.
XX
PN   WO9960838-A1.
XX
PD   02-DEC-1999.
XX
PF   28-MAY-1999;   99WO-US12007.
XX
PR   28-MAY-1998;   98US-0087374.
XX
PA   (OHIS ) UNIV OHIO STATE RES FOUND.
XX
PI   Sayre RT,  Traina SJ;
XX
DR   WPI; 2000-086646/07.
XX
PT   Novel method for metal recovery, remediation and separation  -
XX
PS   Disclosure; Page 6; 86pp; English.
XX
CC   The present invention describes a transgenic algal cell (I) of the
CC   genus Chlamydomonas comprising reproductive genetic material comprising
CC   a nucleotide sequence capable of expressing chicken type I
CC   Metallothionein. Also described is a method of removing metal from
CC   an aqueous medium containing at least one dissolved or suspended
CC   metal. The transgenic algae are used for the selective separation of
CC   metals, particularly the separation of precious and desirable metals
CC   such as gold and uranium, from other metals such as cadmium, zinc and
CC   copper. The method can be used to facilitate the selective recovery of
CC   precious and rare metals from mineral sources where aqueous media can
CC   be used, such as in natural surface water flows, ground water and where
CC   water may be introduced. The method is suitable for well-drilling,
CC   soil and water remediation arts, mining fields, and industrial
CC   engineering. The present sequence represents a Class I metallothionein
CC   given in the present invention.
XX
SQ   Sequence   57 AA;


  Query Match             100.0%;  Score 54;  DB 21;  Length 57;
  Best Local Similarity   18.2%;  Pred. No. 1.9e+02;
  Matches    4;  Conservative   18;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 CXXXCXXXXXXXXXXXXCXXXC 22
           |:::|:::::::::::::|:::|
Db      16 cktgckctscrcppceqcssgc 37


RESULT  12
Y57812
ID   Y57812 standard; protein; 59 AA.
XX
AC   Y57812;
XX
DT   22-MAR-2000  (first entry)
XX
DE   Trout metallothionein Class I amino acid sequence.
XX
KW   Metallothionein; metal recovery; remediation; heavy metal;
KW   precious metal; phytochelatin; green algae; Chlamydomonas reinhardtii.
XX
OS   Salmo sp.
XX
PN   WO9960838-A1.
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XX
PD 02-DEC-1999.
XX
PF 28-MAY-1999; 99WO-US12007.
XX
PR 28-MAY-1998; 98US-0087374.
XX
PA (OHIS) UNIV OHIO STATE RES FOUND.
XX
PI Sayre RT, Traina SJ;
XX
DR WPI; 2000-086646/07.
XX
PT Novel method for metal recovery, remediation and separation -
XX
PS Disclosure; Page 6; 86pp; English.
XX
CC The present invention describes a transgenic algal cell (I) of the
CC genus Chlamydomonas comprising reproductive genetic material comprising
CC a nucleotide sequence capable of expressing chicken type I
CC Metallothionein. Also described is a method of removing metal from
CC an aqueous medium containing at least one dissolved or suspended
CC metal. The transgenic algae are used for the selective separation of
CC metals, particularly the separation of precious and desirable metals
CC such as gold and uranium, from other metals such as cadmium, zinc and
CC copper. The method can be used to facilitate the selective recovery of
CC precious and rare metals from mineral sources where aqueous media can
CC be used, such as in natural surface water flows, ground water and where
CC water may be introduced. The method is suitable for well-drilling,
CC soil and water remediation arts, mining fields, and industrial
CC engineering. The present sequence represents a Class I metallothionein
CC given in the present invention.
XX
SQ Sequence 59 AA;

Query Match 100.0%; Score 54; DB 21; Length 59;
Best Local Similarity 18.2%; Pred. No. 2e+02;
Matches 4; Conservative 18; Mismatches 0; Indels 0; Gaps 0;

Qy 1 CXXXCXXXXXXXXXXXXCXXXC 22
|:::|:::::::::::::|:::|
Db 36 cpsdckcasgcvckgktcdtsc 57

RESULT 13
Y57810
ID Y57810 standard; protein; 62 AA.
XX
AC Y57810;
XX
DT 22-MAR-2000 (first entry)
XX
DE Human metallothionein Class I amino acid sequence.
XX
KW Metallothionein; metal recovery; remediation; heavy metal;
KW precious metal; phytochelatin; green algae; Chlamydomonas reinhardtii.
XX
OS Homo sapiens.
XX
PN WO9960838-A1.
XX
PD 02-DEC-1999.
XX
PF 28-MAY-1999; 99WO-US12007.
XX
PR 28-MAY-1998; 98US-0087374.
XX
PA (OHIS) UNIV OHIO STATE RES FOUND.
XX
PI Sayre RT, Traina SJ;
XX
DR WPI; 2000-086646/07.
XX
PT Novel method for metal recovery, remediation and separation -
XX
PS Disclosure; Page 6; 86pp; English.
XX
CC The present invention describes a transgenic algal cell (I) of the
CC genus Chlamydomonas comprising reproductive genetic material comprising
CC a nucleotide sequence capable of expressing chicken type I
CC Metallothionein. Also described is a method of removing metal from
CC an aqueous medium containing at least one dissolved or suspended
CC metal. The transgenic algae are used for the selective separation of
CC metals, particularly the separation of precious and desirable metals
CC such as gold and uranium, from other metals such as cadmium, zinc and
CC copper. The method can be used to facilitate the selective recovery of
CC precious and rare metals from mineral sources where aqueous media can
CC be used, such as in natural surface water flows, ground water and where
CC water may be introduced. The method is suitable for well-drilling,
CC soil and water remediation arts, mining fields, and industrial
CC engineering. The present sequence represents a Class I metallothionein
CC given in the present invention.
XX
SQ Sequence 62 AA;

Query Match 100.0%; Score 54; DB 21; Length 62;
Best Local Similarity 18.2%; Pred. No. 2.1e+02;
Matches 4; Conservative 18; Mismatches 0; Indels 0; Gaps 0;

Qy 1 CXXXCXXXXXXXXXXXXCXXXC 22
|:::|:::::::::::::|:::|
Db 34 ccscchvgcakcaqgcickiac 55

RESULT 14
Y57815
ID Y57815 standard; protein; 63 AA.
XX
AC Y57815;
XX
DT 22-MAR-2000 (first entry)
XX
DE Sea urchin metallothionein Class II amino acid sequence.
XX
KW Metallothionein; metal recovery; remediation; heavy metal;
KW precious metal; phytochelatin; green algae; Chlamydomonas reinhardtii.
XX
OS Euechinoidea.
XX
PN WO9960838-A1.
XX
PD 02-DEC-1999.
XX
PF 28-MAY-1999; 99WO-US12007.
XX
PR 28-MAY-1998; 98US-0087374.
XX
PA (OHIS) UNIV OHIO STATE RES FOUND.
XX
PI Sayre RT, Traina SJ;
XX
DR WPI; 2000-086646/07.
XX
PT Novel method for metal recovery, remediation and separation -
XX
PS Disclosure; Page 6; 86pp; English.
XX
CC The present invention describes a transgenic algal cell (I) of the
CC genus Chlamydomonas comprising reproductive genetic material comprising
CC a nucleotide sequence capable of expressing chicken type I
CC Metallothionein. Also described is a method of removing metal from
CC an aqueous medium containing at least one dissolved or suspended
CC metal. The transgenic algae are used for the selective separation of
CC metals, particularly the separation of precious and desirable metals

CC such as gold and uranium, from other metals such as cadmium, zinc and
CC copper. The method can be used to facilitate the selective recovery of
CC precious and rare metals from mineral sources where aqueous media can
CC be used, such as in natural surface water flows, ground water and where
CC water may be introduced. The method is suitable for well-drilling,
CC soil and water remediation arts, mining fields, and industrial
CC engineering. The present sequence represents a Class II metallothionein
CC given in the present invention.
XX
SQ Sequence 63 AA;

Query Match 100.0%; Score 54; DB 21; Length 63;
Best Local Similarity 18.2%; Pred. No. 2.1e+02;
Matches 4; Conservative 18; Mismatches 0; Indels 0; Gaps 0;

Qy 1 CXXXCXXXXXXXXXXXCXXXC 22
|:::|:::::::::::::|:::|
Db 34 ccgicinaackcangckcgsgc 55

RESULT 15
Y64780
ID Y64780 standard; Protein; 66 AA.
XX
AC Y64780;
XX
DT 01-FEB-2000 (first entry)
XX
DE Human 5' EST related polypeptide SEQ ID NO:941.
XX
KW Human; 5' EST; expressed sequence tag; secreted protein; diagnosis;
KW gene therapy; chromosome mapping; upstream regulatory sequence;
KW forensic; location; development; protein synthesis; stability;
KW regulation; identification.
XX
OS Homo sapiens.
XX
PN WO9953051-A2.
XX
PD 21-OCT-1999.
XX
PF 09-APR-1999; 99WO-IB00712.
XX
PR 09-APR-1998; 98US-0057719.
PR 28-APR-1998; 98US-0069047.
XX
PA (GEST) GENSET.
XX
PI Dumas Milne Edwards J, Duclert A, Giordano J;
XX
DR WPI; 2000-038446/03.
DR N-PSDB; Z42394.
XX
PT Novel secreted protein 5' expressed sequence tag sequences used in
PT diagnostic, forensic, gene therapy, and chromosome mapping procedures
XX
PS Claim 3; Page 640; 837pp; English.
XX
CC Z42265 to Z43075 represent novel 5' expressed sequence tag (EST)
CC sequences, corresponding to human secreted proteins. Y64651 to Y65438
CC represent the EST-related proteins corresponding to Z42265 to Z43052.
CC The 5' ESTs can be used for producing secreted human gene products.
CC They can be used to identify and isolate 5' untranslated regions (UTRs)
CC and upstream regulatory regions which control the location, development
CC stage, rate, and quantity of protein synthesis, as well as stability of
CC mRNA. The ESTs are also useful as probes for chromosome mapping, and to
CC obtain full length cDNA clones. The ESTs can also be used in forensic
CC procedures to identify individuals, or in diagnostic procedures to
CC identify individuals having genetic diseases resulting from abnormal
CC gene expression. The products may also be used in gene therapy protocols.
CC The nucleic acids encoding signal peptides can be used for directing
CC extracellular secretion of a polypeptide or the insertion of a
CC polypeptide into a membrane, or importing a polypeptide into a cell.
CC The proteins encoded by the EST sequences may be useful in treating a
CC variety of human conditions. Secreted proteins have therapeutic value,
CC and the identification of new secreted proteins is valuable. Z42249 to
CC Z42264 and Y64644 to Y64650 represent sequences used in the
CC exemplification of the present invention.
XX
SQ Sequence 66 AA;

Query Match 100.0%; Score 54; DB 21; Length 66;
Best Local Similarity 18.2%; Pred. No. 2.2e+02;
Matches 4; Conservative 18; Mismatches 0; Indels 0; Gaps 0;

Qy 1 CXXXCXXXXXXXXXXXCXXXC 22
|:::|:::::::::::::|:::|
Db 17 clvscvlcvvcpvcwvmccvwc 38

Search completed: March 1, 2001, 16:18:29
Job time: 498 sec